COSMETIC AND PHARMACEUTICAL OIL-IN-WATER EMULSIONS

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This application claims foreign priority of GERMANY 100 07 649.1, filed 02/19/2000.

DESCRIPTION

Field of the Invention

The present invention relates to the use of polyether-modified polysiloxanes of a defined structure for the preparation of cosmetic and pharmaceutical oil-in-water emulsions, and to oil-in-water emulsions which comprise such polyether-modified polysiloxanes.

Background of the Invention

The majority of cosmetic and pharmaceutical emulsions are of the oil-in-water type, i.e., the oil phase ("disperse phase") is very finely distributed in the form of small droplets in the water phase ("coherent phase"). The viscosity of emulsions which consist only of water, oil and emulsifier, and whose content of disperse phase is below 60%, by weight, is equal to the viscosity of the coherent phase, and, in the case of oil-in-water emulsions, is thus equal to that of water. For reasons of feel on the skin, cosmetic emulsions on average comprise not more than 30% of oil phase, i.e., cosmetic emulsions are typically water-thin. Since, however, the consumer generally desires a lotion-like (high-viscosity) to cream-like (semisolid) consistency, and also the stability of emulsions increases with the viscosity of the coherent phase, the "thickening" of oil-in-water emulsions is essential. For this purpose there are two fundamentally different methods which can be combined with one another. The first method is based on the fact that certain oil-in-water emulsifiers are able, together with so-called "hydrophilic waxes", to form liquid-crystalline (lamellar) structures in the coherent water phase. Moreover, this first method forms a three dimensional network which leads to a large increase in the viscosity of the emulsion; keeps the oil droplets separate from one another; and thus improves the stability of the emulsion. Examples of "hydrophilic waxes" are stearyl alcohol, stearic acid and glyceryl stearate.

The other method is based on the ability of so-called "hydrocolloids" to take up and bind many times their own weight of water and thus lead to thickening of water. Examples of such water-swellable organopolymers are crosslinked